

What is claimed is:

1. A cellulose acylate film comprising:
plural layers including two surface layers and at least one
5 inner layer;
wherein the averaged degree of acylation of cellulose acylate
in said two surface layers is in the range of 0.5 to 2.8 and
the averaged degree of acylation of cellulose acylate in said
inner layer is higher than that of said two surface layers.
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2. A cellulose acylate film as claimed in claim 1, wherein
one of said two surface layers is stacked on a hydrophilic
material.
- 15 3. A cellulose acylate film as claimed in claim 2, wherein
the averaged degree of acylation of said cellulose acylate in
each layer is adjusted by mixing plural cellulose acylates
having different averaged degree of acylation.
- 20 4. A cellulose acylate film as claimed in claim 2, wherein
in order to regulate the averaged degree of acylation of said
cellulose acylate, cellulose as a material of said cellulose
acylate is esterified with use of acetic acid and acetic
anhydride as an compound for esterification and with use of
25 sulfuric acid as a catalyst, and the remaining sulfuric acid
is neutralized, and thereafter the ripening is performed.
- 30 5. A cellulose acylate film as claimed in claim 4, wherein
the neutralization of said remaining sulfuric acid is made with
calcium compounds, and the content of said calcium compounds
to said cellulose acylate in weight ratio is at most 60 ppm.

6. A cellulose acylate film as claimed in claim 2, wherein contact angles to water on outer surfaces of said surface layers are at most 60°.

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7. A cellulose acylate film as claimed in claim 2, wherein at least one of materials of said cellulose acylate, additives, and solvents is different between neighboring two of said plural layers.

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8. A cellulose acylate film as claimed in claim 2, wherein said plural layers are formed by performing a solution casting of plural solutions, such that one of said solutions for said two surface layers may contact to a substrate.

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9. A cellulose acylate film as claimed in claim 8, wherein said one surface layer contacting to said substrate contains acid compounds when peeled from said substrate, and said acid compound has acid dissociation constant pKa in the range of 2.0
20 to 4.5 in an aqueous solution at 25 °C.

10. A cellulose acylate film as claimed in claim 2, wherein at least one of said plural layers is composed of cellulose acylates made from wood pulp, and remaining layers are composed
25 of cellulose acylates made from cotton linter.

11. A cellulose acylate film as claimed in claim 2, wherein at least one of said plural layers is composed of a mixture of a cellulose acylate made from wood pulp and a cellulose acylate
30 made from cotton linter, and remaining ones are composed of cellulose acylates made from said cotton linter.

12. A cellulose acylate film as claimed in claim 2, wherein
said inner layer contains volatile compounds

5 13. A cellulose acylate film as claimed in claim 12, wherein
said surface layers contain particle materials.

14. A cellulose acylate film to be laminated on a hydrophilic
material, comprising:

10 plural layers in which the averaged degree of acylation
of cellulose acylate is different;

 a surface layer of said plural layers that is to be laminated
on said hydrophilic material, the averaged degree of acylation
of cellulose acylate in said surface layer being in the range

15 of 0.5 to 2.8; and

 wherein said averaged degree of acylation of cellulose
acylate in each layer is adjusted by mixing plural cellulose
acylates having different averaged degree of acylation.

20 15. A cellulose acylate film as claimed in claim 14, wherein
a contact angle to water on an outer surface of said surface
layers is at most 60°.

25 16. A cellulose acylate film as claimed in claim 14, wherein
at least one of materials of said cellulose acylate, additives,
and solvents is different between neighboring two layers of said
plural layers.

30 17. A cellulose acylate film as claimed in claim 14, wherein
said plural layers are formed by performing a solution casting
of plural solutions for said plural layers such that said plural

solutions may be sequentially overlaid on a substrate.

18. A cellulose acylate film as claimed in claim 17, wherein
said surface layer contains acid compound when peeled from said
5 substrate, and said acid compound has acid dissociation
constant pKa in the range of 2.0 to 4.5 in an aqueous solution
of 25 °C .

10 19. A cellulose acylate film as claimed in claim 14, wherein
at least one of said plural layers is composed of cellulose
acylates made from wood pulp, and remaining layers are composed
of cellulose acylates made from cotton linter.

15 20. A cellulose acylate film as claimed in claim 14, wherein
at least one of said plural layers is composed of a mixture of
a cellulose acylate made from is wood pulp and a cellulose
acylate made from cotton linter, and remaining layers are
composed of cellulose acylates made from said cotton linter.

20 21. A cellulose acylate film as claimed in claim 14, wherein
other layers than said surface layer contain volatile compounds

22. A cellulose acylate film as claimed in claim 21, wherein
said surface layer contains particle materials.

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23. A cellulose acylate film to be laminated on a hydrophilic
material, comprising:

plural layers including at least a first layer and a second
layer, said first layer having a first surface to be stacked
30 on said hydrophilic material and a second surface on said second
layer;

wherein the averaged degree of acylation of cellulose acylate in said first layer is in the range of 0.5 to 2.8, and the averaged degree of acylation of that in said second layer is different from that of said first layer.

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24. A cellulose acylate film as claimed in claim 23, wherein a contact angle to water on an outermost surface of said first layer is at most 60°.

10 25. A cellulose acylate film as claimed in claim 23, wherein at least one of materials, additives and solvents of said cellulose acylate is different between said first layer and a second layer.

15 26. A cellulose acylate film as claimed in claim 23, wherein said plural layers are formed by performing a solution casting of plural solutions in which a solution for said first layer is on a solution for said second layer, such that said solution for said first layer may contact to a substrate.

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27. A cellulose acylate film as claimed in claim 26, wherein when said plural layers are peeled from said substrate, said first layer contains acid compound, and said acid compound has acid dissociation constant pKa in the range of 2.0 to 4.5 in
25 an aqueous solution of 25 °C .

30 28. A cellulose acylate film as claimed in claim 27, wherein one of said first and second layers is composed of cellulose acylates made from wood pulp, and another one is composed of cellulose acylates made from cotton linter.

29. A cellulose acylate film as claimed in claim 27, wherein one of said first and second layers is composed of a mixture of cellulose acylates made from wood pulp and a cellulose acylate made from cotton linter, and another one is composed
5 of cellulose acylates made from said cotton linter.

30. A cellulose acylate film as claimed in claim 27, wherein said plural layers include a third layer formed on said second layer, said second layer contains volatile compounds.

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31. A cellulose acylate film as claimed in claim 30, wherein said first and third layers contain particle materials.

32. A producing method of a cellulose acylate film to be
15 laminated on a hydrophilic material, said producing method comprising:

preparing plural solutions which include at least a first solution and a second solution, in said first solution a first material whose averaged degree of acylation is in the range of
20 0.5 to 2.8 being dissolved to a solvent, in said second solution a second material whose averaged degree of acylation is different from said first material being dissolved to a solvent, said averaged degrees of acylation of said first and second materials being adjusted by mixing plural cellulose acylates
25 whose averaged degrees of acylation are different;

casting said plural solutions on a substrate to form said cellulose acylate film having plural layers in which a second layer is formed on a first layer, said first layer to be contacted to said hydrophilic material being formed over said first
30 solution, said second layer being formed of said second solution; and

peeling said cellulose acylate film from said substrate.

33. A producing method as claimed in claim 32, wherein said first layer is contacted to said substrate.

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34. A producing method as claimed in claim 33, wherein when said cellulose acylate film is peeled from said substrate, said first layer contains acid compound, and said acid compound has acid dissociation constant pKa in the range of 2.0 to 4.5 in
10 an aqueous solution at 25 °C .

35. A producing method as claimed in claim 34, wherein a main solvent of said first solution and said second solution is non-chlorine based organic solvent.

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36. A producing method as claimed in claim 35, wherein said substrate is one of a band and a drum.

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